minor informalities. Reconsideration in view of the above amendments and following remarks is respectfully requested. The attached Appendix includes a marked-up copy of the Abstract (37 C.F.R. §1.125(b)(2)).

I. OBJECTIONS TO THE CLAIMS

The Office Action objects to claims 11-22. Claims 11-22 have been canceled. Thus, this rejection is moot.

II. OBJECTION TO THE SPECIFICATION

The Office Action objects to the Abstract. The Abstract has been amended to correct minor informalities. See the attached Substitute Abstract. Withdrawal of the objection to the Abstract is specifically requested.

III. CLAIMS 11-22 ARE REJECTED UNDER 35 U.S.C. §112, SECOND PARAGRAPH

The Office Action rejects claims 11-22 under 35 U.S.C. §112, second paragraph. Claims 11-22 have been canceled. Thus, this rejection is moot.

IV. THE CLAIMS DEFINE PATENTABLE SUBJECT MATTER

The Office Action rejects claims 11-22 under 35 U.S.C. §102(b) over U.S. Patent 4,404,609 to Jones, Jr. Claims 11-22 have been canceled. Thus, this rejection of these claims is moot. However, Applicants respectfully traverse the rejection as applied to claims 23-33.

The Office Action states that Jones discloses a basic substance, a plurality of layers, and all of the claimed limitations. See the Office Action at, e.g., page 3, item 6. Applicants respectfully disagree.

Jones fails to teach or suggest all the features recited in newly added claims 23 and 29. In particular, Jones fails to disclose that after forming a second magnetic layer 29, a third insulating layer 31 is formed on the second magnetic layer 29 and gap layer 28, and then is polished to form a coplanar surface together with the pole portion of the second magnetic layer 29. Thereafter, the thin film coil is formed on the coplanar surface. Jones fails to teach

or suggest this feature. Instead, Jones only discloses a photo-resist insulating layer 16 having an edge which does not extend all the way out to the air bearing surface ABS. See, e.g., Figs. 2 and 5. Since the thin film coil is formed on the coplanar flat surface, it is possible to perform the photolithographic process of manufacturing the thin film coil very accurately. Attaining the coil windings having a small line and space is a particularly important need in the art which could not previously be perfomed as recited in claim 23.

As illustrated in Fig. 27, the first insulating layer 28' is formed on the first magnetic layer 27 as an island, and thus the first insulating layer 28' has an end edge along a whole periphery thereof. According to Figs. 18a and 18b, an end edge of the first insulating layer 28' on a side of the pole portion of the first magnetic layer 27 forms a reference position for the air bearing surface. A distance from the air bearing surface to the end edge of the first insulating layer 28' on a side of the pole portion of the first magnetic layer 27 constitutes the throat height zero reference position and the throat height H is defined by this end edge of the first insulating layer 28'.

Furthermore, Jones fails to teach or suggest a method of manufacturing a thin magnetic head including forming a gap layer of a non-magnetic material in addition to a first insulating layer between the first and second magnetic layers as recited in independent claims 23 and 29. Instead, Jones discloses providing a coating 15 of AL_2O_3 and a photo-resist insulation layer 16 disposed between a first P1 and a second P2 magnetic layer. See, e.g., col. 2, line 60 to col. 30, line 9 and Fig. 2.

In addition, Jones is silent about forming a thin film coil such that a part of the thin film coil is formed on the coplanar surface of the pole portion of the second magnetic layer and the third insulating layer and is isolated by a second insulating layer, as recited in claim 23. Jones also fails to disclose a first insulating layer on a first magnetic layer and a gap layer on the pole portion of the first magnetic layer as recited in claim 23.

For at least the reasons discussed above, Applicants respectfully submit that Jones fails to anticipate the subject matter of new independent claims 23 and 29. Thus, claims 24-28 and 30-33 which depend from independent claims 23 and 29 respectively are also patentable.

V. CONCLUSION

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Robert Z. Evora
Registration No. 47,356

JAO:RZE/dmw

Date: April 23, 2003

Attachments:
Appendix
Substitute Abstract
Petition for Extension of Time

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

APPENDIX

Changes to Abstract:

The following is a marked-up version of the amended Abstract.

~~After forming the first shield layer 23 on a basic substances~~substrate ~~21 and 22 a GMR film 25~~is formed and ~~embedded in the shield gap layers 24 and 26 is formed, in addition, a first insulation layer 28' where the edge defines a reference position of a throat height zero is formed on a first magnetic layer 27, a gap layer 28 is formed on a magnetic pole portion of the first magnetic layer 27 and the first insulation layer, then a second magnetic layer 29 extended above the first insulation layer 38' from the upper side of the magnetic pole portion of the first magnetic layer 27 is formed, after smoothing its surface by the second insulation layer 31, thin film coils 32 and 34 are formed on this second insulation layer, and the third magnetic layer 36 is formed on the insulation layers 33 and 35 where the magnetic pole portion and the thin film coil of the second above magnetic layer are isolated. In order T~~to cancel the saturation of the magnetic flux in the~~a magnetic pole portion effectively, and to prevent the widening of ~~the effective track width of the effect truck and the~~a decrease in the yield, the~~a third above magnetic layer is made retreated from the air bearing surface, and is connected to a rear region from~~of the magnetic pole portion of the second magnetic layer. A rear region from~~of the magnetic pole portion of the second magnetic layer 29 is made in the shape of a fan and connected to the third magnetic layer 36 in~~over enough area ~~so that the magnetic flux might not be saturated even when the tip portion of the upper pole is retreated from the air bearing surface~~. A method of manufacturing a thin film magnetic head. The method includes~~ing~~ forming, near a pole portion: a first magnetic layer supported by a base substrate; a first insulating layer on the first magnetic layer with an end edge which forms a reference position for an air bearing surface; a gap layer on the pole portion of the first magnetic layer and the first insulation layer; a second

magnetic layer that extends to a region beyond the pole portion; a thin film coil isolated by a second insulation layer located above the first insulation layer; a third magnetic layer on the second insulation layer. The air bearing surface is formed by grinding in part an end face of the pole portion of the first magnetic layer and an end face of the pole portion of the second magnetic layer and the gap layer placed therebetween.

Changes to Claims:

Claims 11-22 are canceled.

Claims 23-33 are added.